December 27, 2018

Richard Greenwood
California State Lands Commission
200 Oceangate, 12th floor
Long Beach, CA 90802-4331

Dear Mr. Greenwood,

I'm writing in accordance with the California State Lands Commission Geophysical Survey Permit No. **9439** to notify you of upcoming survey operations in the vicinity of San Diego Bay. Surveys will be conducted from January 17-25, 2019, between 6 am and 7 pm daily, aboard Scripps Institution of Oceanography's R/V *Point Loma*. The survey will include high-resolution sub-bottom sonar. Please note that the survey will not take place in any MPAs.

Please find included in this notification package:

1. Exhibit F (Pages 1-2)
2. Exhibit G (Pages 3-4)
3. Survey Location Map (Page 5)
4. Survey Coordinate Tables (Pages 6)
5. U.S. Coast Guard Local Notice to Mariners (Page 7)
6. Marine Wildlife Contingency Plan (Pages 8-17)
7. Oil Spill Contingency Plan (Pages 18-19)
8. Verification of Equipment Service/Maintenance (Pages 20)
9. Exhibit H (Pages 21-29)

Please don't hesitate to contact me for more information.

Sincerely,

Jillian M. Maloney
Assistant Professor
Geological Sciences
San Diego State University

EXHIBIT F

PRESURVEY NOTIFICATION FORM

Applicant/Permittee's Mailing Address:
Neal Driscoll
Scripps Institution of Oceanography
9500 Gilman Drive, MC-0244
La Jolla, CA 92093-0244

Date: 12/27/19
Jurisdiction: Federal ____ State __X_ Both __
If Sate: Permit #PRC **9439**
Region: I
Area: San Diego Bay, CA

GEOPHYSICAL SURVEY PERMIT

Check one: ___X___New survey _____ Time extension of a previous survey

Scripps Institution of Oceanography with San Diego State University (Applicant/Permittee) will conduct a geophysical survey offshore California in the survey area outlined on the accompanying navigation chart. If you foresee potential interference with commercial fishing or other activities, please contact the person(s) listed below:

STATE WATERS (Inside 3 nautical miles)

1) Permittee's representative
2) CSLC representative

NOTE: Any comments regarding potential conflicts in State waters should be received as soon as possible by the Permittee's representative, no more than fifteen (15) days after the receipt of this notice.

1. Expected Date of Operation January 17-26, 2019
2. Hours of Operation 6am to 7pm
3. Vessel Name R/V Point Loma
4. Vessel Official Number CF1702XC, hull number CF21702X0075C
5. Vessel Radio Call Sign R/V Point Loma
6. Vessel Captain's Name Neal Driscoll
7. Vessel will monitor Radio Channel(s) 12/16/70
8. Vessel Navigation System Differential GPS

EXHIBIT F

9. Equipment to be used:
   1. Edgetech 3200, 512 Chirp sub-bottom profiler
      a. Frequency (Hz, kHz) 1-16 kHz
      b. Source level (dB re 1 μPa at 1 meter (m) [root mean square (rms)]) 212 dB
      c. Number of beams, across track beamwidth, and along track beamwidth 1 beam, variable width depending on frequency range (16-41 degrees)
      d. Pulse rate and length pulse rate 1 per second; pulse length ranges from 5-30 ms
      e. Rise time NA
      f. Estimated distances to the 190 dB, 180 dB, and 160 dB re 1 μPa (rms) isopleths
         190 dB – 35 m; 180 dB – 50 m; 160 dB – 75 m
      g. Deployment depth ~1 m
      h. Tow speed 4 kts
      i. Approximate length of cable tow: 1-3 m

Applicants Representative:
Neal Driscoll
Scripps Institution of Oceanography
9500 Gilman Dr.
La Jolla, CA 92038-0244
858-822-5026

California State Lands Representative
Richard B. Greenwood
Statewide Geophysical Coordinator
200 Oceangate, 12th Floor
Long Beach, CA 90802-4331
(562) 590-5201

EXHIBIT G

California State Lands Commission Presurvey Notice Requirements for Permittees to Conduct Geophysical Survey Activities

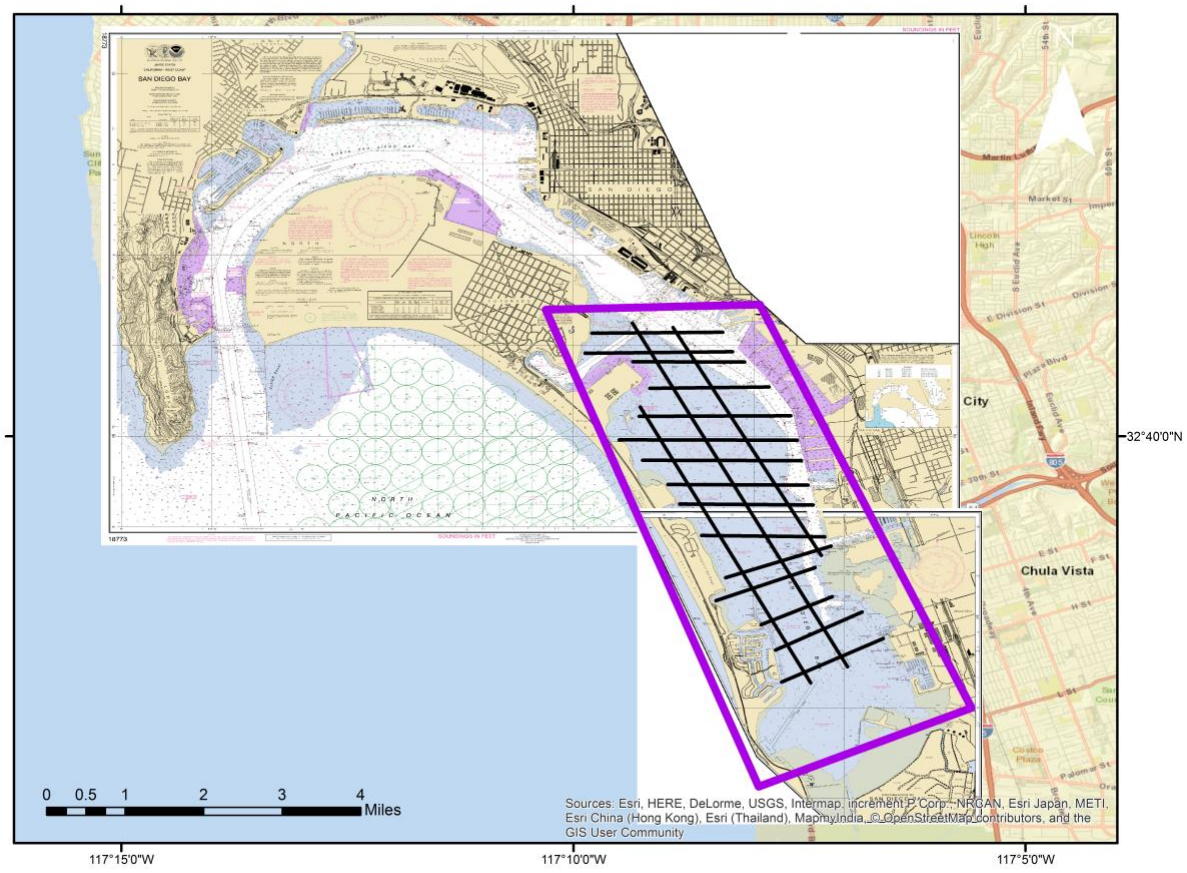
All parts of the Presurvey Notice must be adequately filled out and submitted to the CSLC staff a minimum of twenty-one (21) calendar days prior to the proposed survey date to ensure adequate review and approval time for CSLC staff. Note that one or more of the items may require the Permittee to plan well in advance in order to obtain the necessary documentation prior to the Notice due date (e.g., permits from other State or Federal entities).

Please use the boxes below to verify that all the required documents are included in the Presurvey Notice. If "No" is checked for any item, please provide an explanation in the space provided. If additional space is needed, please attach separate pages.

Yes	No	
☒	☐	Geophysical Survey Permit Exhibit F
☒	☐	Survey Location (including a full-sized navigation chart and GPS coordinates for each proposed track line and turning point): Explanation: Map on page 5, Tables on pages 6
☒	☐	Permit(s) or Authorization from other Federal or State agencies (if applicable) Explanation: N/A
☒	☐	21-Day Written Notice of Survey Operations to Statewide Geophysical Coordinator/
☒	☐	U.S. Coast Guard Local Notice to Mariners/ Page 7
☒	☐	Aquatic Wildlife Contingency Plan Explanation: Pages 8-17
☒	☐	Oil Spill Contingency Plan Explanation: Pages 18-19
☒	☐	Verification of California Air Resources Board's Tier 2-Certified Engine Requirement Explanation: Engines compliant with MARPOL 73/78 (IMO), Annex VI NOx Limits, EPA Tier II and consume less than 790 gallons daily, meeting San Diego County regulations.
☒	☐	Verification of Equipment Service and/or Maintenance (must verify sound output) Explanation: Pages 20
☐	☒	Permit(s) or Authorization from California Department of Fish and Wildlife for surveys in or affecting Marine Protected Area(s) (if applicable) Explanation: Surveys do not extend into any Marine Protected Areas

NOTE: CSLC staff will also require verification that current biological information was obtained and transmitted as outlined in Section 5 of this permit.

Drake Singleton (SDSU) contacted Thomas Coleson (562-980-3209) at the NOAA Long Beach office on December 20, 2018 regarding marine mammal activity within the survey area to inquire about recent unusual marine wildlife activity in the area of planned survey.



Map 1: The above map shows the planned survey area in San Diego Bay. Survey lines are marked in black and average 500 m between track line spacing. These locations have been chosen based on an ongoing analysis of the previous survey lines. It is possible the exact survey line locations may need to be adjusted as the survey data is collected and reviewed. If so, the survey lines will not extend beyond the area outlined in the purple box. See Table 1 survey line coordinates. Survey will not be conducted within any MPAs.

Table 1: The table below shows the start and end points in geographic decimal degrees for each of the potential survey lines line shown in the above map.

Start Latitude	Start Longitude	End Latitude	End Longitude	Length (km)
32.6856613	-117.1632843	32.6858025	-117.1391602	2.18
32.6819611	-117.1645203	32.6822281	-117.1373444	2.50
32.6803627	-117.1557541	32.6803436	-117.1350861	1.84
32.6755028	-117.1525955	32.6757431	-117.1306152	2.00
32.6703377	-117.1545410	32.6704292	-117.1265869	2.57
32.6660271	-117.1582031	32.6659622	-117.1253815	3.02
32.6622581	-117.1539383	32.6621742	-117.1246872	2.66
32.6577835	-117.1492615	32.6576996	-117.1234055	2.39
32.6541939	-117.1471024	32.6540260	-117.1224670	2.23
32.6484222	-117.1430588	32.6481743	-117.1203384	2.09
32.6464615	-117.1191711	32.6406403	-117.1386337	1.86
32.6364212	-117.1404114	32.6424866	-117.1221161	1.81
32.6371536	-117.1189270	32.6319809	-117.1320496	1.28
32.6273079	-117.1294174	32.6343269	-117.1134567	1.64
32.6214333	-117.1282883	32.6294594	-117.1095428	1.97
32.6875343	-117.1558228	32.6242485	-117.1161346	7.93
32.6720428	-117.1543350	32.6212845	-117.1229477	6.35
32.6867065	-117.1483078	32.6447601	-117.1209946	5.31

Table 2: The table below shows coordinates for the vertices of the polygon shown in Map 1. Units are in geographic decimal degrees.

32.689300	-117.172508
32.690430	-117.132486
32.602596	-117.132394
32.616877	-117.093337

SAN DIEGO STATE UNIVERSITY

Jillian Maloney <jmaloney@sdsu.edu>

Local Notice to Mariners - Sonar Survey, San Diego Bay, January 16-26, 2018

1 message

Jillian Maloney <jmaloney@sdsu.edu> Thu, Dec 27, 2018 at 9:49 AM
To: D11LNM@uscg.mil

Dear Sir/Madam,

I'm writing to notify you of upcoming sonar surveys in the vicinity of San Diego Bay. This work will be conducted under the California State Lands Commission Geophysical Survey Permit No. 9439 with the Scripps Institution of Oceanography and San Diego State University.

We will be operating surveys from Scripps Institution of Oceanography's R/V Point Loma. The survey will include a pole-mounted sub-bottom Chirp sonar. The surveys will take place from January, 17-26 2019 with survey hours between 6am and 7pm.
Planned survey lines are shown on the attached map and a list of bounding coordinates for each of three survey areas is also attached.

Please let me know if you have any questions. You can reach me through email (jmaloney@sdsu.edu) or by
phone (619 228 6075).

Sincerely,

Jillian Maloney
Assistant Professor
Geological Sciences
San Diego State University
619-228-6075
website

MARINE WILDLIFE CONTINGENCY PLAN

1.0 INTRODUCTION

This Marine Wildlife Contingency Plan (MWCP) is prepared in compliance with the Scripps Institution of Oceanography (SIO) existing State Geophysical Permit PRC 9439. This plan is intended to provide guidance to vessel operators and scientific field personnel collecting geophysical in the San Diego Bay, CA.

This MWCP discusses mitigation efforts that are designed to reduce the impact of survey activities on aquatic wildlife, and is specific to the equipment, activities, and area proposed for this survey. The proposed monitoring and mitigation actions have been shown to be effective in reducing or eliminating potential impacts to marine mammals and reptiles, and follow the CSLC's guidelines set forth in its Mitigation Monitoring Program Exhibit B.

This MWCP includes measures that specify 1) the distance, speed, and direction transiting vessels will maintain when in proximity to marine wildlife; 2) qualifications, number, location and authority of onboard marine wildlife monitors; 3) methods of reducing noise levels generated by the geophysical equipment; and 4) observation recording procedures and reporting requirements in the event of an observed impact to marine organisms.

1.1 Vessel operation procedures

Daily activities will include a transit from the pier at Scripps Institution of Oceanography's Marine Facility in northern San Diego Bay, California to the survey location, deployment of geophysical gear, geophysical survey, recovery of gear, and transit back to the pier. We anticipate ~6-8 hours at sea each day, including transit. The survey lines will only be collected when conditions are safe and swimmers, divers and paddlers are not present. The shallowest depth of survey lines will be ~2-3 m. Survey data will be monitored in real-time aboard the vessel.

The research vessel will transit during day-light hours from the pier at the Scripps Institution of Oceanography's Marine Facility within northern San Diego Bay, California. During transits, there is a potential for encountering marine wildlife and the vessel operators will take every precaution to avoid close proximity to wildlife. If the vessel operator observes a large cetacean within the path of the transiting vessel, they will immediately slow the vessel and/or change course in order to avoid contact. Cetaceans (whales) vary in their swimming patterns and duration of dives and therefore all shipboard personnel will be watchful as the vessel crosses the path of a whale or anytime whales are observed in the area.

If whales are observed during transits, the vessel operator will institute the following measures:

- Maintain a minimum distance of 100 m from large sighted whales;
- Do not cross directly in front of or across the path of sighted whales;
- When transit directions is parallel to whale path, maintain constant speed that is not greater than the whales speed, or alter transit direction away from whale path;
- Do not position the vessel in such a manner to separate female whales from their

calves
- If a whale engages in evasive or defensive action, slow the vessel and move away from the animal or stop the vessel until the animal calms or moves out of the area.

During survey operations, the Chirp profiler will be deployed from a J-frame on the starboard side of the vessel and towed adjacent to the vessel at ~1 m water depth. Survey speed will be maintained at ~4 knots with a heading that coincides with survey track lines. If marine wildlife is observed within the vicinity of the vessel, the vessel operator will take precautions to avoid collision by slowing the vessel and/or ending and restarting the track line survey if necessary.

1.2 Marine Wildlife Monitors

Two MWMs will be onboard the vessel during transit and survey operations. The vessel is 32 ft. in length with an open deck plan so that a clear line of site to the safety zone is possible from most locations on the vessel.

Scripps Institution of Oceanography (SIO) at the University of San Diego, California has provided training for Marine Wildlife Monitors (MWMs) in support of low power geophysical surveys in California State Waters and Federal Waters under NOAA National Marine Fisheries (NMFS) jurisdictions. This training was provided for sea-going personnel, including research assistants and technical support staff, to support scientific geophysical surveys and to meet marine mammal mitigation obligations pursuant to California State Lands Commission (CSLC) and NMFS requirements.

The MWM training was conducted by certified MWM Michelle Lande, a marine biologist and staff scientist at SIO at the time of the training. Ms. Lande holds a B.A. in biology (Wellesley College) and an M.A.S. in Marine Biodiversity and Conservation (SIO). She was trained and certified as an MWM during a 3-day workshop at RPS Group in Houston, Texas, and has all of the instructional material (handouts, identification manuals, slides, video, etc.) for teaching the workshop at SIO. Ms. Lande also has extensive experience working at sea, identifying marine wildlife, and working in environmental regulation.

The training was conducted during a one day workshop at SIO that covered multiple topics important for marine wildlife observation. These included identification of marine mammal species, normal and abnormal behaviors, status and trends of marine wildlife species, determination of safety zones for geophysical equipment, and the authority of the MWM to recommend equipment shutdown. The training included visual images, documentation of rules and regulations, and example datasheets. As part of the training, personnel performed typical MWM duties aboard an SIO vessel including continuous observation, wildlife identification, and data recording.

The MWMs will be provided with standard data collection sheets, binoculars, and reference documentation for marine mammal species. All monitoring activities will be documented and copies of datasheets will be provided to CSLC upon completion of the survey.

MWMs are responsible for monitoring during the survey equipment operations. The MWMs will monitor within the safety zone of 100 m radius for sub-bottom profiler geophysical equipment. Sightings of marine mammals within the safety zone will be recorded with location, date & time, observed behavior, and species where identification

is possible. The MWM will record daily weather conditions and any occasions where geophysical equipment was shut-down due to the presence of marine mammals.

The MWMs shall have the authority to stop (i.e., shut down) survey operations if a marine mammal or reptile is observed within the specified safety zone. If an animal is sighted within the safety zone, the equipment must be shut down and not ramped-up to full power until the animal is sighted outside of the safety zone or has not been observed for 15 minutes.

The MWMs shall also have authority to recommend continuation (or cessation) of operations during periods of limited visibility (i.e., fog, rain) based on the observed abundance of marine wildlife. Periodic reevaluation of weather conditions and reassessment of the continuation/cessation recommendation shall be completed by the onboard MWMs. During operations, if an animal's actions are observed to be irregular, the monitor shall have authority to recommend that equipment be shut down until the animal moves further away from the sound source. If irregular behavior is observed, the equipment shall be shut-off and will be restarted and ramped-up to full power, as applicable, or will not be started until the animal(s) is/are outside of the safety zone or have not been observed for 15 minutes.

1.3 Noise Reduction Procedures

The survey operator shall use a "soft start" technique at the beginning of survey activities each day (or following a shut down) to allow any marine mammal that may be in the immediate area to leave before the sound sources reach full energy. Surveys shall not be conducted at nighttime or when the safety zone cannot be effectively monitored. Operators shall initiate each piece of equipment at the lowest practical sound level, increasing output in such a manner as to increase in steps not exceeding approximately 6 decibels (dB) per 5-minute period. During ramp-up, the MWMs shall monitor the safety zone. If marine mammals are sighted within or about to enter the safety zone, a power-down or shut down shall be implemented as though the equipment was operating at full power. Initiation of ramp-up procedures from shut down requires that the MWMs be able to visually observe the full safety zone.

Additionally, the ship's crew will take the following precautionary measures to minimize impact to marine wildlife:

- Not approach within 300 m of haul-out sites (consistent with NMFS guidelines)
- Expedite survey activity in order to minimize the potential for disturbance
- Continuously monitor the survey area to ascertain the presence, species and location of any marine wildlife apparent in the intended survey area.
- Make every effort to maintain distance from sighted marine mammals and other marine wildlife;
- Do not cross directly in front of (perpendicular to) whales
- When paralleling large cetaceans, the vessel will operate at a constant speed that is not faster than that of the animals;
- Care will be taken to ensure female whales are not separated from their calves; and, if a whale engages in evasive or defensive action, the vessel will reduce speed or stop until the animal calms or moves out of the area.
- The vessel operator will refrain from erratic operating behavior when transiting

and will operate at 4 kts during surveys

- Limit the frequency, pulse length, and pulse rate whenever possible to reduce potentially harmful noises.

1.4 Observation and Reporting Procedures

SDSU contacted the NOAA Long Beach Office staff on December 20, 2016 to acquire information on the current composition and relative abundance of marine wildlife in San Diego Bay as well as any pinniped haul out sites. Additionally, one day prior to survey activities, the NOAA Long Beach office and local whale watching operations will be contacted to get an update on marine wildlife sightings in the area. This information will be conveyed to the captain and crew prior to the survey.

A review of environmental responsibility of project operations will be conducted by the chief scientist in charge of the survey operations prior to commencing the first day of operations. When new personnel are added to the crew, this training will be repeated at least for those new to the crew. They will be made aware of their individual responsibility and will be shown how to be aware of possible environmental impacts and how to mitigate them during the geophysical survey operations. Information relating to seasonality, as an indication of the types of animals that might be in our survey area, at the time of survey work will also be presented to the crew. A copy of the Marine Wildlife Contingency Plan will be provided to the crew of our survey vessels.

All personnel will be expected to be consistently aware that they are to be alert to any presence of marine wildlife while they are performing their duties. There are a number of signs/indications of marine wildlife presence and each crew member will be responsible to maintain vigilance for those signs within the constraints of their project duties. Some of those indications are:

a. Sounds - such as splashing, vocalizations (by animals and birds), and blowing (breathing).
b. Visual indications - birds aggregating, changes in water character such as areas of rippled water, white water caused by splashing, changes in color or shape of the ocean surface

The MWM will record sightings of marine mammals within the safety zone with location, date & time, observed behavior, and species where identification is possible. The MWM will also record daily weather conditions and any occasions where geophysical equipment was shut-down due to the presence of marine mammals.

If a collision with marine wildlife occurs, the vessel operator will document the conditions under which the accident occurred, including the following:

- Location of the vessel when the collision occurred (latitude and longitude);
- Date and time;
- Speed and heading of the vessel;
- Observed conditions (e.g., wind speed and direction, swell height, visibility in miles or kilometers, and presence of rain or fog);
- Species of marine wildlife contacted; and
- Organization, vessel ID and name of master in charge of the vessel at time of accident.

In accordance with NOAA requirements, after a collision, the vessel should stop, if safe to do so. The vessel may proceed after confirming that it will not further damage the animal by doing so. The vessel will then communicate by radio or telephone all details to the vessel's base of operations. The SIO or SDSU chief scientist will contact the Stranding Coordinator, NMFS, Southwest Region, Long Beach, to obtain instructions. Alternatively, the vessel captain may contact the NMFS Stranding Coordinator directly using the marine operator to place the call or directly from an onboard telephone, if available to:

NOAA Southwest Regional Stranding Coordinator
National Marine Fisheries Service
501 West Ocean Blvd, Suite 4200
Long Beach, CA 90802-4213
562-980-4017
Contact: Sarah Wilkin
Email: sarah.wilkin@noaa.gov

It is unlikely that the vessel will be asked to stand by until NOAA or CDFG personnel arrive, however this will be determined by the Stranding Coordinator. The vessel operator is not allowed to aid injured marine wildlife or recover the carcass unless requested to do so by the NOAA Stranding Coordinator.
Reports will be communicated to the federal and state agencies listed below:

Federal	**State**	**State**
Sarah Wilkin, Stranding Coordinator Southwest Region National Marine Fisheries Service Long Beach, California (562)980-4017	Enforcement Dispatch Desk California Department of Fish and Game Long Beach, California (562) 590-5132	California State Lands Commission Division of Environmental Planning and Management Sacramento, California (916) 574-1938

2.0 ANTICPATED MARINE WILDLIFE

The following discusses the marine wildlife that are most likely to be within the project region during survey operations, and the subsequent section (4.0) outlines the methods that will be instituted by the vessel operator and crew to reduce or eliminate potential impacts to marine wildlife during transit and survey operations.

Table 1 details the marine mammal species possibly occurring in the survey area, along with their status and population estimates and trends by stock. Table 2 describes the likelihood of occurrence within the project area according to the species' seasonality. Figure 1 shows a map of pinniped haul-out sites in the vicinity of the survey area.

Table 1. Protection Status and Population Estimates and Trends by Stock

Common Name ***Scientific Name***	**Protected Status**	**Minimum Population Estimate**	**Current Population Trend**
Mysticeti			
North Pacific right whale *Eubalaena japonica*	FE, M	17 (based on-photo identification) (Eastern North Pacific Stock)	No long-term trends suggested
California grey whale *Eschrichtius robustus*	M	18,017 (Eastern North Pacific Stock)	Fluctuating annually
Humpback whale *Megaptera novaeangliae*	FE, M	1,878 (California/Oregon/Washington Stock)	Increasing
Minke whale *Balaenoptera acutorostrata*	M	202 (California/Oregon/Washington Stock)	No long-term trends suggested
Sei whale *Balaenoptera borealis*	FE, M	83 (Eastern North Pacific Stock)	No long-term trends suggested
Fin whale *Balaenoptera physalus*	FE, M	2,624 (California/Oregon/Washington Stock)	Increasing off California
Blue whale *Balaenoptera musculus*	FE, M	2,046 (Eastern North Pacific Stock)	Unable to determine
Odonteceti			
Sperm whale *Physeter macrocephalus*	FP, FE	751 (California/Oregon/Washington Stock)	No long-term trends suggested
Dwarf sperm whale *Kogia sima*	M	Unknown (California/Oregon/Washington Stock)	No long-term trends due to rarity
Curvier's beaked whale *Ziphius cavirostris*	M	1,298 (California/Oregon/Washington Stock)	No long-term trends due to rarity
Baird's beaked whale	M	615	No long-term trends due to

Berardius bairdii		(California/Oregon/Washington Stock)	rarity
Mesoplodont beaked whales	M	576 (California/Oregon/Washington Stock)	No long-term trends due to rarity
Bottlenose dolphin *Tursiops truncatus*	M	684 (California/Oregon/Washington Offshore Stock) 290 (California Coastal Stock)	No long-term trends suggested
Striped dolphin *Stenella coeruleoalba*	M	8,231 (California/Oregon/Washington Stock)	No long-term trends due to rarity
Short-beaked common dolphin *Delphinus delphis*	M	343,990 (California/Oregon/Washington Stock)	Unable to determine
Long-beaked common dolphin *Delphinus capensis*	M	17,127 (California Stock)	Unable to determine
Pacific white-sided dolphin *Lagenorhynchus obliquidens*	M	21,406 (California/Oregon/Washington Stock)	No long-term trends suggested
Northern right whale dolphin *Lissodelphis borealis*	M	6,019 (California/Oregon/Washington Stock)	No long-term trends suggested
Risso's dolphin *Grampus griseus*	M	4,913 (California/Oregon/Washington Stock)	No long-term trends suggested
Killer whale *Orcinus orca*	M	162 (Eastern North Pacific Offshore Stock) 354 (West Coast Transient Stock)	No long-term trends suggested Slight decrease sing mid-1990's
Short finned pilot whale	M	465 (California/Or	No long-term trends suggested

Globicephala macrorhynchus		egon/Washington Stock)	
Dall's porpoise *Phcoenoides dalli*	M	32,106 (California/Oregon/Washington Stock)	Unable to determine
Pinnipeds			
Guadalupe fur seal *Arctocephalus townsendi*	FT, M	3,028 (Mexico Stock) Undetermined in California	Increasing
Northern fur seal *Callorhinus ursinus*	M	5,395 (San Miguel Island Stock)	Increasing
Pacific harbor seal *Phoca vitulina richardsi*	M	31,600 (California Stock)	Stable
California sea lion *Zalophus californianus*	M	141,842 (California Stock)	Unable to determine; increasing in most recent three year period
Northern elephant seal *Mirounga angustirostris*	M	74,913 (California Breeding Stock)	Increasing
Cyptodira			
Green turtle *Chelonia mydas*	FT	3,319 (Eastern Tropical Pacific)	Increasing
Loggerhead turtle *Caretta caretta*	FE	1,000 (California)	Decreasing
Olive Ridley turtle *Lepidochelys olivacea*	FT	1.39 million (Eastern Tropical Pacific)	Increasing
Leatherback turtle *Dermochelys coriacea*	FE	178 (California)	Decreasing

Marine Mammal Sources: NMFS 2008, 2011a.
Marine Turtle Sources: NMFS 2004, Marquez, et al. 2002, Eguchi et al. 2007, and Benson et al. 2007. Estimates are based on number of current numbers of nesting females.

Protected Status Codes: FE- Federally listed Endangered; FT- Federally listed Threatened; M- Protected under Marine Mammal Protection Act

Table 2. Marine Wildlife Species and Most Likely Periods of Occurrence within the Project Area

Species	Month of Occurrence											
	J	F	M	A	M	J	J	A	S	O	N	D
Mysticeti												
North Pacific right whale	■	■								■	■	■
California grey whale	▨	▨	▨	▨	▨						▨	▨
Humpback whale					■	■	■	■	■	■	■	
Minke whale	■	■	■	■	■	■	■	■	■	■	■	■
Sei whale												
Fin whale					■	■	■	■	■	■	■	
Blue whale						■	■	■	■	■	■	
Odonteceti												
Sperm whale												
Dwarf sperm whale												
Curvier's beaked whale												
Baird's beaked whale												
Mesoplodont beaked whales												
Bottlenose dolphin	■	■	■	■	■	■	■	■	■	■	■	■
Striped dolphin	■	■	■	■	■	■	■	■	■	■	■	■
Short-beaked common dolphin	▨	▨	▨	▨	▨	▨						▨
Long-beaked common dolphin	▨	▨	▨	▨	▨	▨	■	■	■	■	■	▨
Pacific white-sided dolphin	■	■	■	▨	▨	▨	▨	▨	▨	■	■	■
Northern right whale dolphin	■	■	■	■	■							■
Risso's dolphin	■	■	■	■	■	■	■	■	■	■	■	■
Killer whale	■	■	■	■	■	■	■	■	■	■	■	■
Short finned pilot whale	■	■	■	■	■	■	■	■	■	■	■	■
Dall's porpoise	▨	▨	▨	▨	▨	■	■	■	■	■	■	▨
Pinnipeds												
Guadalupe fur seal	■	■	■	■	■	■	■	■	■	■	■	■
Northern fur seal		▨	▨	▨	▨	▨	▨	▨	▨			
Pacific harbor seal	■	■	■	■	■	■	■	■	■	■	■	■
California sea lion	■	■	■	■	■	■	■	■	■	■	■	■
Northern elephant seal	■	■	■	■	■	■	■	■	■	■	■	■
Cyptodira												
Green turtle	■	■	■	■	■	■	▨	▨	▨	■	■	■
Loggerhead turtle	■	■	■	■	■	■	▨	▨	▨	■	■	■
Olive Ridley turtle	■	■	■	■	■	■	■	■	■	■	■	■
Leatherback turtle	■	■	■	■	■	■	▨	▨	▨	■	■	■

	Not expected to occur
▨	Most likely to occur due to seasonal distribution
■	Relatively uniform distribution

Sources: Bonnell and Dailey 1993, NMFS 2011, NCCOS 2007

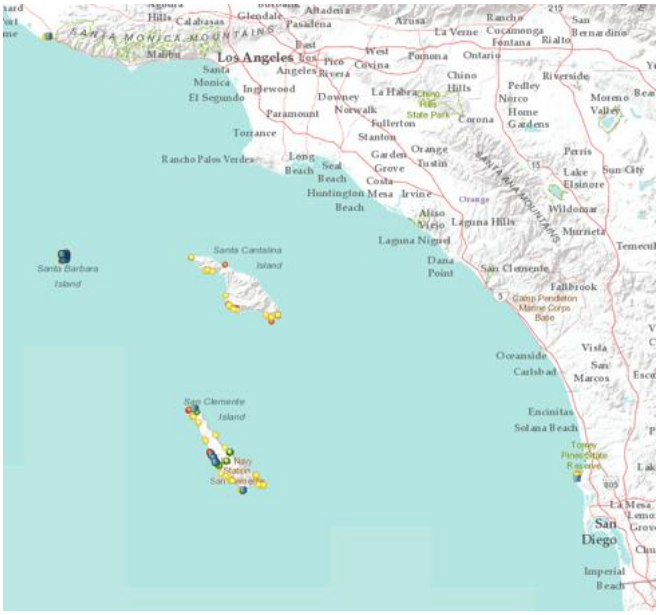


Fig. 1: Pinniped haul out sites in Southern California identified by colored points. The proposed survey area does not approach any identified haul out sites within 300 m

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Source: NOAA NMFS, http://www.arcgis.com/home/webmap/viewer.html?webmap=2ff3fabe20cf4c83959cae1597500b09

OIL SPILL CONTINGENCY PLAN

1.0 INTRODUCTION

The survey operations will be conducted on Scripps Institution of Oceanography's R/V *Point Loma* and it is anticipated that response to any operational spills will be quickly identified and response will be initiated quickly and efficiently by the vessel operator. Oil spills in United States (U.S.) marine waters shall be reported immediately.

2.0 OPERATIONAL SPILLS

Operational spills might involve one or more of the following substances carried on board the vehicles: (i) fuel and (ii) lube oil. The vessel is equipped with woven polypropylene sheets for rapid absorption of surface oil and protective gloves, and a disposal bag. All of the liquids (listed below) that could cause a hazardous spill are either in the fuel tank or in the vehicle engine. Spill occurrence will likely be during fueling, in the event of grounding or if any instance occurred that punctured the gas tank. In the event a spill occurred in the engine compartment, the absorbent sheets would be used to contain the hazardous liquids and the bilge would not be emptied until it could be pumped out at a hazardous waste facility. We do not anticipate a spill of greater than .25 gallons.

(i) Fuel:

Absorbent sheets, protective gloves, and a disposal bag shall be available for use in the event of a spill. If the fuel is spilled on the deck, it shall be immediately removed, bagged and disposed of at an appropriate hazardous waste reception facility. In the event of spillage in the water, the vessel master shall notify the Coast Guard and port facility.

(ii) Lube oil:

Absorbent sheets, protective gloves, and a disposal bag shall be available for use in the event of a spill. If the oil is spilled in the machinery space, it shall be immediately removed, bagged and disposed of at an appropriate hazardous waste reception facility. In the event of spillage in the water, the vehicle operator shall notify the Coast Guard and port facility.

3.0 EMPLOYEE TRAINING ON OIL SPILL CONTINGENCY PLAN

Prior to the launching of the vessel for any activities, all captain and crew members on the vessel will have read the Oil Spill Contingency Plan, understand procedures to be implemented in the event of an oil spill, and know where the oil spill clean up materials are located on the vessel.

4.0 VESSEL FUELING

All vessel fueling will be conducted at an approved docking facility. No cross vessel fueling will be performed. Appropriate spill avoidance measures during filling procedures will be observed.

5.0 PRIORITY ACTIONS TO ENSURE PERSONNEL AND VESSEL SAFETY

Safety of vessel and crew are paramount. In the event that a crewman's injuries require outside emergency assistance, the SIO safety officer shall be contacted immediately and emergency personnel contacted. While awaiting emergency assistance, the on board vessel master or qualified vessel crew personnel will render first aid and/or CPR.

6.0 MITIGATING ACTIVITIES

If safety of both the vessel and the personnel has been addressed, the vessel master shall care for the following issues:

- Assessment of the situation and monitoring of all activities as documented evidence.
- Care for further protection of the personnel, use of protective gear, assessment of further risk to health and safety.

- Containment of the spilled material by absorption and safe disposal within leak proof containers of all used material onboard until proper delivery ashore, with due consideration to possible fire risk.
- Decontamination of personnel after finishing the cleanup process.

7.0 EMERGENCY CONTACTS FOR STATE AND FEDERAL AGENCIES

Emergency numbers for U.S.C.G. for the San Francisco and Central Coast Areas are:
Pacific SAR Coordinator - Alameda: 510-437-3700
Rescue Coordination Center, Alameda: 510-437-3700

Any oil spill in U.S. marine waters shall be reported immediately to the following state and agencies:
West Coast Oil Spill hot-line 800-OELS-911, *or*
Department of Fish and Game CalTIP 888-CFG-CALTip (Californians Turn In Poachers & Polluters) (888-334-2258). *and*
U.S. Coast Guard National Response Center 800-424-8802
California Office of Emergency Services (OES) 800-OILS-911 or 800-852-7550.

During the phone call, the following information will be given over the phone.
a. Name and telephone number of caller.
b. Spill location
c. What was spilled (oil, gas, diesel, etc.)
d. Estimated size of spill
e. The date & time spill was identified (same day).
f. Any oiled or threatened wildlife
g. Source of spill, if known h. Activity observed at the spill site

After taking the necessary actions, the spill will be reported in writing to the Governor's Office of Emergency Services on their forms.

Additionally, California Department of Fish and Game certified wildlife rescue/response organizations will be contacted about the spill. In the Southern California area, these include the following contacts:

Oiled Wildlife Care 1-877-UCD-OWCN	Network Animal Advocates 323-651-1336
California Wildlife Center 310-458-9453	South Bay Wildlife Rehab 310-378-9921

GEOPHYSICAL SOUND SOURCE SYSTEMS MAINTENANCE RECORDS

Scripps Institution of Oceanography Marine Facility (MARFAC) operates an arsenal of remote sensing instruments ranging from swath bathymetry to multi-channel seismic systems. Data acquisition is world wide and such an operation requires extensive testing of the geophysical equipment before deployment by a talented group of marine technicians and engineers. SIO operates, maintains, and repairs all geophysical equipment employed to support their field campaigns.

Edgetech 512i Chirp sub-bottom sonar:
The 512i Edgetech CHIRP sonar is operated and owned by Scripps Institution of Oceanography and has been thoroughly checked, tested and calibrated according to the manufacturer's recommended procedures. The system is also sent back to Edgetech regularly to ensure the acoustic transducers are calibrated and perform to manufactures' specifications as well as upgrades to topside software and hardware.

The system includes;
1) a DF1000 towfish and topside unit
2) a X-Star subbottom sonar including:

a) a SB0512 tow fish with
- i) 2 planar receiving arrays
- ii) Woofer/tweeter transmitting pair covering the range of 0.5 -16 kHz
- iii) 31" pressure housing containing matching transformers, 2 channel power amp, 2 channel receiving amp, matching transformers, 2 channel DGA and A/D converters and associated DSP processors, Pentium 2 computer, ADSL telemetry transceiver, 300 VDC to 48/12/5 VDC power supplies
- iv) Pitch/Roll sensor

b) A shipboard interface unit (SIU) that provides 300 VDC power to fish and the ADSL telemetry transceiver, hardware and software diagnostics, and an Ethernet output. There is a Pentium host.

c) A topside Pentium processor with an ethernet input from the SIU. This performs the following
- i) Subbottom image display during acquisition and playback
- ii) Navigation interface
- iii) Seg-Y storage of subbottom and navigation data

Prior to all cruises, the system undergoes a thorough evaluation of all components, cables, connectors and electronics for any signs of corrosion, wear and/or damage. Acoustic tests and calibration are performed to confirm system performance meets manufactures' specifications. The 512i Edgetech CHIRP system is fully compliant with Edgetech stated capabilities and specifications.